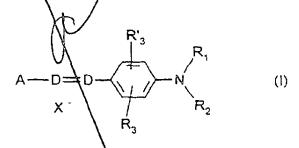
## CLAIMS

- 1. Composition for dyeing keratinous fibres and in particular human keratinous fibres such as hair, containing in an appropriate dyeing medium, (i) at
- 5 least compound chosen from those of the following formulae (I), (III), (III), (III'), (IV):
  - a) the compounds of the following formula

(I):



10 in which:

D represents a nitrogen atom or the -CH group,

 $R_1$  and  $R_2$ , which are identical or different, represent a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which 15 may be substituted with a -CN -OH or -NH $_2$  radical or form with a carbon atom of the benzene ring an optionally oxygen-containing or nitrogen-containing heterocycle which may be substituted with one or more  $C_1$ - $C_4$  alkyl radicals; a 4'-aminophenyl radical,

R<sub>3</sub> and R'<sub>3</sub>, which are identical or different, represent a hydrogen or halogen atom chosen from chlorine, bromine, iodine and fluorine, a cyano,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy or acetyloxy radical,

 $X^-$  represents an anion which is preferably from chloride, methylsulphate and acetate, chosen' A represents a group chosen from the structures  $A_1$  to  $A_{19}$ : following

and
R.
N+
A19

in which  $R_4$  represents a  $C_1$ - $C_4$  alkyl radical which may be substituted with a hydroxyl radical and  $R_5$  represents a  $C_1$ - $C_4$  alkoxy radical, with the proviso that when D represents -CH, A represents  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  do not simultaneously denote a hydrogen atom;

b) the compounds of the following formula

10 (II):

$$B-N=N$$

$$X$$

$$R_{9}$$

$$(II)$$

in which:

 $R_6$  represents a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical,

15 R<sub>7</sub> represents a hydrogen atom, an alkyl radical which may be substituted with a CN radical or with an amino group, a 4'-aminophenyl radical or forms with R<sub>6</sub> an optionally oxygen-containing and or nitrogen-containing heterocycle which may be substituted with a 20 C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_{\theta}$  and  $R_{\theta}$  , which are identical or different, represent a hydrogen atom, a halogen atom such as

bromine, chlorine, iodine or fluorine, a  $C_1-C_4$  alkyl or  $C_1-C_4$  alkoxy radical, a -CN radical,

X represents an anion which is preferably chosen from chloride, methylsulphate and acetate,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{11}$ 
 $R_{12}$ 
 $R_{12}$ 
 $R_{13}$ 
 $R_{14}$ 
 $R_{10}$ 
 $R$ 

in which  $R_{10}$  represents a  $C_1-C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, represent a 10 hydrogen atom or a  $C_1-C_4$  alkyl radical;

c) the compounds of the following formulae (III) and (III'):

$$E-D_{1} = D_{2} - (N)_{m}$$

$$X = R_{15}$$

$$R_{15}$$

$$R_{16}$$

$$R_{16}$$

$$R_{16}$$

$$R_{17}$$

$$R_{16}$$

$$R_{18}$$

$$R_{19}$$

$$R_{19}$$

radical, a halogen atom such as bromine, chlorine,

5 iodine or fluorine or an amino radical,

in which

 $R_{14}$  represents a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and/or substituted with one or more  $C_1$ - $C_4$  alkyl groups,

 $R_{15}$  represents a hydrogen or halogen atom such as bromine, chlorine, indine of fluorine,

 $$R_{16}$$  and  $$R_{17},$$  which are identical or different, represent a hydrogen atom or a  $C_1\text{--}C_4$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different,

m = 0 or 1,

it being understood that when  $R_{13}$  represents an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously represent a -CH group and m=0,

20 X represents an anion which is preferably chosen from chloride, methylsulphate and acetate,

E represents a group chosen from the following structures E1 to E8:

represent a nitrogen atom or the -CH group,

in which R' represents a  $C_1 \setminus C_4$  alkyl radical;

when m=0 and  $D_1$  represents a nitrogen atom, then E may also denote a group having the following structure E9:

10 in which R' represents a C1-C4 alkyl radical

## d) the compounds of the following formula

(IV):

 $(VI) \qquad C - N = N - E$ 

in which:

5 the symbol G represents a group chosen from the following structures  $G_1$  to  $G_3$ :

in which structures G1 to G3,

10  $R_{18}$  denotes a  $C_1$ - $C_4$  alkyl radical, a phenyl radical which may be substituted with a  $C_1$ - $C_4$  alkyl radical or a halogen atom chosen from chlorine, bromine, icdine and fluorine;

R<sub>19</sub> denotes a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a pheryl radical;

- 15  $R_{20}$  and  $R_{21}$ , which are identical or different, represent a  $C_1$ - $C_4$  alkyl radical, a phenyl radical, or form
- together in  $G_1$  a benzene ring which is substituted with one or more  $C_1-C_4$  alkyl,  $C_1-C_4$  alkoxy or  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally

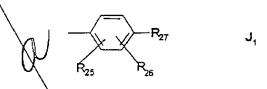
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substituted with one or more C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy or
   NO2 radicals;
    R20 may denote, in addition, a hydrogen atom;
    Z denotes an oxygen or sulphur atom or an -NR<sub>19</sub> group;
 5 M represents a group -CH, -CR (R denoting C1-C4 alkyl),
   or -NR_{22}(X^{-})_r;
    K represents a group -CH, -CR (R denoting C1-C4 alkyl),
    or -NR_{22}(X^{-})
    P represents a group -CH, -CR (R denoting C_1-C_4 alkyl),
10 or -NR<sub>22</sub>(X)<sub>r</sub>; r denotes zero or 1;
    C1-C4 alkyl radical;
    R23 and R24, which are identical or different, represent
    a hydrogen or halogen atom chosen from chlorine,
15 bromine, iodine and fluorine, a C1-C4 alkyl radical, a
    C1-C4 alkoxy radical or an -NO2 radical;
    X represents an anion which is preferably chosen from
    chloride, iodide, methylsulphate, ethylsulphate,
    acetate and perchlorate;
20
               with the proviso that
    if R22 denotes O, then r denotes zero;
    if K or P or M denote -N-(C_1-C_4 \text{ alkyl})X^-, then R_{23} or R_{24}
    is different from a hydrogen atom;
    if K denotes -NR_{22}(X^{-})_{r'}, then M = P = -CH, -CR;
   if M denotes -NR_{22}(X)_r, then K = P = -CH, -CR;
    if P denotes -NR_{22}(X^{-})_{r}, then K = M and denote -CR or
    -CR;
```

if Z denotes a sulphur atom with  $R_{21}$  denoting  $C_1-C_4$  alkyl, then  $R_{20}$  is different from a hydrogen atom; if Z denotes  $-NR_{22}$  with  $R_{19}$  denoting  $C_1-C_4$  alkyl, then at least one of the  $R_{19}$ ,  $R_{20}$  or  $R_{21}$  radicals of  $G_2$  is

## the symbol J represents:

different from a C1-C4 alkyl radical;

-(a) a group having the following structure  $J_1$ :



10 in which structure J1,

 $R_{25}$  represents a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, a  $C_1-C_4$  alkyl radical, a  $C_1-C_4$  alkoxy radical, a radical -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, -NHCO( $C_1-C_4$ alkyl), or forms with

15 R<sub>26</sub> a 5- or 6-membered ring containing or otherwise one or more heteroatoms chosen from nitrogen, oxygen or sulphur;

 $R_{26}$  represents a hydrogen atom, a halogen atom chosen from chlorine, bromine, iodine and fluorine, a  $C_1\!-\!C_4$ 

20 alkyl or  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring containing or otherwise one or more heteroatoms chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  represents a hydrogen atom, an -OH radical, an -NHR<sub>28</sub>

25 radical, an -NR<sub>29</sub>R<sub>30</sub> radical;

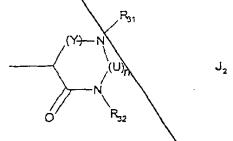
R<sub>28</sub> represents a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkyl radiòal, a

 $C_1-C_4$  monohydroxyalkyl radical, a  $C_2-C_4$  polyhydroxyalkyl radical, a phenyl radical;

 $R_{29}$  and  $R_{30}$ , which are identical or different, represent a  $C_1$ -C alkyl radical, a  $C_1$ -C monohydroxyalkyl radical, a  $C_2$ -C Polyhydroxyalkyl radical;

(b) a 5- or 6- membered nitrogen-containing heterocycle group which is capable of containing other heteroatoms and/or carbonyl-containing groups and which may be substituted with one or more  $C_1$ - $C_4$  alkyl, amino

10 or phenyl radicals, and in particular a group having the following structure  $J_2$ :



15 in which structure  $J_2$ ,

 $R_{31}$  and  $R_{32}$ , which are identical or different, represent a hydrogen atom, a  $C_1-C_4$  alkyl radical, a phenyl radical;

Y denotes the -CO- radical or the radical

20 n = 0 or 1, with, when n denotes 1, U denotes the -CO-radical.

the said composition being characterized in that it contains, in addition,

15

the group comprising:

(ii)<sub>1</sub> - those of the following formula (V):

$$\begin{bmatrix}
R^1 & R^3 \\
R^2 & R^4
\end{bmatrix} + X^{-1} \qquad (V)$$

5 in which,

sulphates;

the radicals R<sup>1</sup> to R<sup>4</sup>, which are identical or different, denote a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising from 1 to about 30 carbon atoms, or an alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl or alkylaryl radical comprising from 12 to about 30 carbon atoms, with at least one radical among R<sup>1</sup>, R<sup>2</sup>, R<sup>1</sup> and R<sup>4</sup> denoting a radical comprising from 8 to 30 carbon atoms;

X<sup>-</sup> is an anion chosen from the group comprising halides, phosphates, acetates, lactates and alkyl

20 (ii)<sub>2</sub> - the imidazolium salts of the following formula (VI):

R<sup>5</sup> is chosen from the alkenyl and/or alkyl radicals comprising from 13 to 31 carbon atoms and derived from pallow fatty acids.

5

(ii)<sub>3</sub> - the quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix} R^{7} & R^{9} \\ R^{6} & N - (-CH_{2})_{3} & N - R^{11} \\ R^{8} & R^{10} \end{bmatrix} \xrightarrow{2} X^{-}$$
 (VII)

in which,

10

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 $R^5$  denotes an aliphatic radical comprising from 16 to 30 carbon atoms,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are chosen from hydrogen or an alkyl radical comprising from 1 to 4 carbon atoms, and  $X^-$  is an anion chosen from the group comprising halides, acetates, phosphates and sulphates.

15

2. Composition according to Claim 1,

characterized in that the cationic direct dyes of formula (I) are chosen from the compounds corresponding to the following structures (II) to (I54):

20

$$\begin{array}{c|c}
CH_3 \\
N \\
CH_3
\end{array}$$

$$CH_3 \\
CH_3$$

$$CH_3$$

$$CH_3$$

$$H^3C-N+$$
 $CH$ 
 $CH^3$ 
 $CH^3$ 
 $CH^3$ 

$$H_3C-N+$$
  $CH=CH C_2H_4CN$   $CI^*$  (15)

$$HO-H_4C_2-N+$$
 $CH=CH CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$H_3C-N+$$
 $CH=CH$ 
 $CH_3$ 
 $CH_3$ 
 $CI$  (17)

$$CH_3 \qquad CH_3 \qquad CH_3 \qquad CI \qquad (18)$$

$$CH_3 \qquad CH_3 \qquad CI \qquad (18)$$

$$CH_3 \qquad CH_3 \qquad CH_3 \qquad CI \qquad (19)$$

$$CH_3$$
 $N-N+$ 
 $N=N CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$CH_3$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $OCH_3$ 

$$C_{2}H_{5}$$
 $C_{2}H_{5}$ 
 $C_{2}H_{5}$ 
 $C_{2}H_{5}$ 
 $C_{2}H_{5}$ 
 $C_{2}H_{5}$ 

$$C_{2}H_{4}-CN$$
 $C_{2}H_{4}-CN$ 
 $C_{2}H_{4}-CN$ 
 $C_{2}H_{4}-CN$ 
 $C_{2}H_{4}-CN$ 

$$CH_3$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$CH_3$$
 $N+$ 
 $N=N CH_3$ 
 $CH_3$ 
 $CH$ 

$$CH_3 \qquad N+ \qquad N=N \qquad NH_2 \qquad CI \qquad (116)$$

$$CH_3 \qquad N+ \qquad CH_3 \qquad CI \qquad (116)$$

$$H_3C$$
 $N_+$ 
 $N_+$ 

$$\begin{array}{c}
CH_3 \\
N \longrightarrow N = N
\end{array}$$

$$\begin{array}{c}
CH_3 \\
CH_3
\end{array}$$

$$\begin{array}{c}
CH_3
\end{array}$$

$$\begin{array}{c}
CH_3
\end{array}$$

$$CH_3$$
 $N+$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_5$ 
 $CH$ 

$$CH_3$$
 $N = N$ 
 $N = N$ 
 $CI$ 
 $CH_2-CH_2-NH_2$ 
 $CH_3$ 

$$CH_3$$
 $N$ 
 $N=N$ 
 $CI$ 
 $CH_2$ - $CH_2$ - $OH$ 
 $CH_3$ 

$$CH_3$$
 $N=N$ 
 $CI$ 
 $CH_2$ - $CH_2$ - $CN$ 
 $CH_3$ 

$$CH_3$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$CH_3$$
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$CH_3$$
 $N+$ 
 $N=N$ 
 $CH_2$ 
 $CH_2$ 
 $CH_2$ 
 $CI$ 
 $CI$ 
 $CI$ 
 $CI$ 

$$CH_3$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 
 $O-CH_3$ 

$$CH_3$$
 $CH_3$ 
 $CH_3$ 

$$CH_3$$
 $N = N$ 
 $N = N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$N = N - NH_2 \qquad CI \qquad (132)$$

$$CH_3$$

$$CH_3$$
  $CI$  (133)

$$CH_3 - N + N = N - N - N - CH_3$$

$$CH_3$$

$$CH_3$$

$$CH_3$$

$$CH_3$$

$$CH_3$$

$$H_3C-O$$
 $N=N+$ 
 $N=N$ 
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$N = N$$

$$N = N$$

$$CH_3$$

$$CI$$

$$CH_3$$

$$N = N - N - CH_3$$

$$CH_3$$

$$CH_3$$

$$CH_3$$

$$H_3C-O$$
 $N=N+$ 
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

ţ

$$N=N$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$S$$
 $N=N$ 
 $N+$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$N \longrightarrow N = N \longrightarrow N \longrightarrow CH_3$$
 CI (141)

$$N = N$$
 $N = N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$N+$$
 $N+$ 
 $CH_3$ 
 $N+$ 
 $CH_3$ 
 $N+$ 
 $CH_3$ 

$$N+$$
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$N+$$
 $N=N$ 
 $CH_3$ 
 $CH_$ 

$$CH_3$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
 $CH_$ 

$$CH_3$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$CH_3$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
 $CH_$ 

$$C_2H_5$$
 $N+$ 
 $CH_3$ 
 $CH_3SO_4$  (149)

:

Composition according to Claim 1,

Sut

Composition according to Claim 2, characterized in that the cationic direct dyes correspond to the structures (II), (I2), (I14), and (I31).

5

10

characterized in that the cationic direct dyes of formula (II) are chosen from the compounds corresponding to the following structures (III) to (II9):

$$H_3C$$
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$N+$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$CH^{\frac{2}{3}}N+ \qquad \qquad \qquad \qquad \qquad CH^{\frac{2}{3}} \quad CI \qquad (II3)$$

$$H_3C$$
 $N+$ 
 $N=N N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

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$$H_3C$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3SO_4$ 
 $CH_3$ 
 $CH_3$ 

## 5. Composition according to Claim 1,

5 characterized in that the cationic direct dyes of

formula (III) are chosen from the compounds
corresponding to the following structures (III1) to
(III18):

$$CH=N-N$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$H_3C$$
 $N$ 
 $CH=N-N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$H_3C$$
 $N$ 
 $CH=N$ 
 $CH=$ 

$$H_3C-N_7$$
  $CH=N-N_1$   $CH_3SO_4$  (III4)

$$H_3C-N+$$
 $CH=N-N$ 
 $CH_3$ 
 $CI$ 
 $(III5)$ 

$$H_3C-N+$$
  $CH=N-N$   $CH_3SO_4$  (III6)

$$CH_3$$
 $CH_3$ 
 $CH_3$ 

$$H_3C-N+$$
 $CH=N-N$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$H_3C-N+$$
 $CH=N-N$ 
 $CH_3$ 
 $CI$ 
 $CI$ 
 $CI$ 
 $CI$ 
 $CI$ 
 $CI$ 

$$CH=N-N$$

$$CH_3$$

$$CH_3SO_4$$

$$CH_3SO_4$$

$$CH_3SO_4$$

$$CH_3SO_4$$

$$CH=CH$$
 $CH_3$ 
 $CH_3COO \cdot (III15)$ 

$$\begin{array}{c}
CH_3 \\
N \\
N+ \\
CH_3
\end{array}$$
 $\begin{array}{c}
CH_3 \\
CH_3
\end{array}$ 
 $\begin{array}{c}
CI \\
CH_3
\end{array}$ 
 $\begin{array}{c}
CH_3 \\
CH_3
\end{array}$ 

$$H_3C-N+$$
 $CH=N-N$ 
 $CH_3$ 
 $CH_3SO_4$  (III13)

$$CH = N - N - CI \quad CH_3SO_4 \quad (III12)$$

$$CH_3$$

$$CH = N - N - CI \quad CH_3SO_4 \quad (III12)$$

$$CH=N-N$$
 $CH_3SO_4$  (III11)

$$H_3C-N+$$
  $CH=N-N CH_3$   $CI^-$  (III17)

; and

$$CI \longrightarrow N=N \longrightarrow CI$$
 (III18)

6. Composition according to Claim 5, characterized in that the cationic direct dyes of formula (III) are chosen from the compounds corresponding to the structures (III4), (III5) and (III13).

then then their the could seem the tent the tent

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Composition according to Claim 1,

characterized in the the cationic direct dyes of formula (III') are chosen from the compounds corresponding to the following structures (III'1) to (III'3):

$$CH_3N+$$
 $CH=CH$ 
 $NH$ 
 $CI$ 
 $(III'2)$ 
; and

$$N$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

8. Composition-according to-Claim-1,

-characterized in that the cationic direct dyes of.

formula (IV) are chosen from the compounds

5 corresponding to the following structures (IV) $_1$  to (IV) $_{77}\colon$ 

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$$N+N=N-CH_3$$

$$CH_3$$

$$CH_3$$

$$N+N=N \longrightarrow OH$$

$$(IV)_2$$

$$N+ N=N - N - N - CH_3$$

$$CH_3$$

$$CH_3$$

$$CH_3$$

$$N+N=N - CH_2CH_2OH - CH_2CH_2OH - CH_2CH_2OH$$

$$N+N=N-NH_2 \qquad (IV)_5$$

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$$H_3C$$
 $N+N=N$ 
 $CH_2CH_2OH$ 
 $CH_2CH_2OH$ 
 $CH_2CH_2OH$ 

$$H_3C$$
 $N+$ 
 $N=N$ 
 $C_2H_5$ 
 $C_2H_5$ 
 $C_2H_5$ 

$$H_3C$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
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$$N+$$
 $N=N$ 
 $CH_3$ 
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$$V_{N+}^{CH_3}$$
 $V_{N+}^{C_2H_5}$ 
 $V_{C_2H_5}^{C_2H_5}$ 
 $V_{C_2H_5}^{C_2H_5}$ 

$$\begin{array}{c|c} CH_3 \\ \hline \\ N+ \\ \hline \\ I- \\ \end{array}$$

$$\begin{array}{c|c} CH_2CH_2OH \\ \hline \\ CH_2CH_2OH \\ \end{array}$$

$$\begin{array}{c|c} (IV)_{12} \\ \hline \end{array}$$

$$\begin{array}{c|c}
CH_3 \\
N+ \\
N=N \\
\hline
\end{array}$$

$$NH_2 \qquad (IV)_{13}$$

$$H_3C$$
 $N \neq N = N$ 
 $N = N$ 
 $N$ 

$$H_3C \xrightarrow{N+} N = N \xrightarrow{CH_3} (IV)_{15}$$

$$CH_3$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$CH_3$$
 $N+COCH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$\begin{array}{c|c} & H_3C \\ \hline N+ & N=N \end{array} \begin{array}{c} CH_3 \\ CH_3 \end{array}$$
 (IV)<sub>19</sub>

$$\begin{array}{c|c} H_3C \\ \hline N+ N=N \\ \hline \\ CH_3 \end{array} \qquad \text{(IV)}_{20}$$

$$N+N=N$$
 $N=N$ 
 $C_2H_5$ 
 $C_2H_5$ 
 $C_2H_5$ 

$$CI$$
 $N+N=N$ 
 $C_2H_5$ 
 $C_2H_5$ 
 $C_2H_5$ 

$$\begin{array}{c|c} CI & H_3C \\ \hline N+ & N=N \end{array} \longrightarrow \begin{array}{c} CH_3 \\ CH_3 \end{array} \qquad (IV)_{23}$$

$$\begin{array}{c|c} CH_3 \\ N+ N=N \end{array} \longrightarrow \begin{array}{c} H \\ O \end{array}$$
 (IV)<sub>24</sub>

$$N=N \xrightarrow{CH_3} CH_3$$

$$CH_3$$

$$CH_3$$

$$N = N - CH_2CH_2OH$$

$$CH_2CH_2OH$$

$$CH_2CH_2OH$$

$$CH_2CH_2OH$$

$$CH_2CH_2OH$$

$$\begin{array}{c|c} & & & \\ &$$

$$\begin{array}{c|c} & & & \\ & N+& N=N \\ & & \\ & CH_3\\ & & \\ & & CH_3SO_4 \end{array}$$

$$CH_3$$
 $N+N=N$ 
 $NH_2$ 
 $CH_3SO_4$ 

$$\begin{array}{c} CH_{3} \\ N+ \\ N=N \\ CH_{2}CH_{2}OH \\ CH_{2}CH_{2}OH \\ CH_{3}SO_{4}^{-} \end{array} \qquad (IV)_{30}$$

$$C_{2}H_{5}$$
 $C_{2}H_{5}$ 
 $C_{2}H_{5}$ 
 $C_{2}H_{5}$ 

$$CH_3$$

$$CH_3$$

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$$CH_3$$

$$\begin{array}{c|c}
CI & CH_3 \\
\hline
CH_3 & CH_3SO_4^-
\end{array}$$

$$CH_3SO_4^-$$

$$CH_3SO_4^-$$

$$H_3C \xrightarrow{N+} N=N \xrightarrow{CH_3} N \xrightarrow{H} (IV)_{34}$$

$$CH_3SO_4^-$$

$$H_3C$$
 $N+N=N$ 
 $CH_3$ 
 $CH_3SO_4$ 
 $CH_3SO_4$ 
 $CH_3SO_4$ 

$$\begin{array}{c} \text{NHCOCH}_3 \\ \text{CH}_3 \\ \text{CH}_3 \\ \text{CH}_3 \\ \text{CH}_3 \\ \text{SO}_4^- \end{array}$$

$$N = N - CH_3$$

$$CH_3$$

$$CH_3$$

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$$H_{3}C$$

$$N = N$$

$$CH_{3}$$

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$$N = N$$

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$$CH_3$$

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$$\begin{array}{c|c}
CI \\
N=N \\
CH_3
\end{array}$$

$$\begin{array}{c}
CH_3 \\
CH_3
\end{array}$$

$$\begin{array}{c}
CH_3 \\
CH_3
\end{array}$$

$$N=N \longrightarrow N$$

$$CH_3SO_4$$

$$CH_3$$

$$(IV)_{41}$$

$$N = N$$

$$N = N$$

$$C_{2}H_{5}SO_{4}$$

$$C_{2}H_{5}$$

$$C_{2}H_{5}$$

$$N = N$$

$$C_{3}$$

$$CH_{3}$$

$$CH_{3}$$

$$CH_{3}$$

$$N = N$$

$$N = N$$

$$CH_3$$

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$$\begin{array}{c|c} CH_3 \\ N+N=N \\ OCH_3 \\ CH_3SO_4 \end{array} \qquad \begin{array}{c} C_6H_5 \\ \end{array}$$

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$$\begin{array}{c|c} S \\ N+ N=N \\ CH_3 \\ CIO_4 \end{array} \qquad \begin{array}{c} CH_3 \\ CH_3 \end{array} \qquad (IV)_{46}$$

$$\begin{array}{c|c}
CH_3 \\
N + N = N \\
CH_3 & CIO_4
\end{array}$$

$$\begin{array}{c|c}
CH_3 \\
CH_3
\end{array}$$

$$\begin{array}{c|c}
CH_3 \\
CH_3
\end{array}$$

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(IV)<sub>49</sub>

$$N+N=N$$
 $NH_2$ 
 $NH_2$ 

$$H_3C \longrightarrow N = N \longrightarrow NH$$

$$CIO_4 \longrightarrow OH$$

$$(IV)_{50}$$

$$\begin{array}{c|c}
S \\
N+ \\
N=N \\
CH_3
\end{array}$$
OH

$$\begin{array}{c}
O \\
NH
\end{array}$$

$$\begin{array}{c}
O \\
NH
\end{array}$$

$$\begin{array}{c|c}
 & NH_2 \\
 & N+ \\
 & OCH_3
\end{array}$$
(IV)<sub>53</sub>

$$N+N=N$$
OH
 $(IV)_{54}$ 
 $I-I$ 
 $I-I$ 

$$\begin{array}{c|c} CH_3 \\ \hline N+N=N \\ \hline OCH_3 \\ CIO_4 \\ NH_2 \\ \end{array} \qquad (IV)_{55}$$

$$N+N=N$$
 $N+N=N$ 
 $N+1$ 
 $N+1$ 

$$\begin{array}{c|c}
CH_3 \\
N+ \\
0- \\
CH_3
\end{array}$$

$$CH_3$$

$$N+N=N$$
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & &$$

$$N+N=N \longrightarrow NO_2$$

$$CH_3$$

$$CH_3$$

$$CH_3$$

$$N+N=N-OH$$

$$V=N-OH$$

$$V=N-OH$$

$$V=N-OH$$

$$V=N-OH$$

(IV)<sub>63</sub>

$$O_2N$$
 $N+N=N$ 
 $CH_3$ 
 $CH_3$ 

$$N+N=N$$
 $CH_3$ 
 $CH_3$ 
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$$H_3C$$
 $N+$ 
 $N=N$ 
 $CH_3$ 
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$$CH_3$$
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$$N = N - NH_2$$

$$V = N - NH_2$$

$$N=N$$

$$CH_{2}CH_{2}OH$$

$$CH_{2}CH_{2}OH$$

$$CH_{3}SO_{4}$$

$$(IV)_{73}$$

$$N = N$$

$$N = N$$

$$NH_{2}$$

$$CH_{3}SO_{4}$$

$$(IV)_{74}$$

$$N=N \xrightarrow{NH_2} NH_2$$

$$CH_3SO_4 CIV)_{75}$$

$$CH_3$$
 $N+N=N$ 
 $NH_2$ 
 $NH_2$ 

(IV)<sub>76</sub>

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(IV)<sub>77</sub>

- 9. Composition according to any one of the preceding claims, characterized in that the cationic direct dye(s) of formulae (I), (II), (III), (III') or 5 (IV) represent from 0.001 to 10% by weight of the total weight of the composition.
- 10. Composition according to Claim 9, characterized in that the cationic direct dye(s) of formulae (I), (II), (III), (III') or (IV) represent 10 from 0.005 to 5% by weight of the total weight of the composition.
  - 11. Composition according to any one of the preceding claims, characterized in that the quaternary ammonium salt (ii) of formula (V) is a
- 15 dialkyldimethylammonium or alkyltrimethylammonium salt in which the alkyl radical comprises from 12 to 22 carbon atoms.

- 12. Composition according to Claim 11, characterized in that it is distearyldimethylammonium chloride, cetyltrimethylammonium chloride or behenyltrimethylammonium chloride.
- 18. Composition according to any one of the preceding claims, characterized in that the quaternary ammonium salt (ii) of formula (V) is a  $di(C_1-C_2$  alkyl)  $(C_{12}-C_{22}$  alkyl) hydroxy  $(C_1-C_2$  alkyl) ammonium salt.
  - 14. Composition according to Claim 13,
- 10 characterized in that it is oleocetylhydroxyethylammonium chloride.
  - 15. Composition according to any one of the preceding claims, characterized in that the quaternary ammonium salt (ii) of formula (V) is
- 15 stearamidopropyldimethyl (myristyl acetate) ammonium chloride of formula:

$$CH_{3} - CH_{2} \rightarrow COOC_{14}H_{20}$$
  $CH_{3} - CH_{2} - COOC_{14}H_{20}$   $CH_{3} - CH_{2} - COOC_{14}H_{20}$   $CH_{3} - CH_{2} - COOC_{14}H_{20}$   $CH_{3} - CH_{2} - COOC_{14}H_{20}$ 

- 16. Composition according to any one of the preceding claims, characterized in that the quaternary 20 ammonium salt(s) (ii) represent from 0.01 to 10% by weight of the total weight of the dyeing composition.
- 17. Composition according to Claim 16, characterized in that the quaternary ammonium salt(s) represent from 0.05 to 5% by weight of the total weight of the dyeing composition.

- 18. Composition according to any one of the preceding claims, characterized in that the appropriate dyeing medium (or carrier) consists of water or of a mixture of water and of at least one organic solvent.
- 5 19 Composition according to any one of the preceding claims, characterized in that it has a pH of between 2 and 1 and preferably between 5 and 10.
- 20. Composition according to any one of the preceding claims, characterized in that it is intended 10 for oxidation dyeing and in that it contains one or more oxidation bases chosen from the paraphenylenediamines, the bis-phenylalkylenediamines, the para-aminophenols, the ortho-aminophenols and the heterocyclic bases.
- 21. Composition according to Claim 20, characterized in that the oxidation base(s) represent 0.0005 to 12% by weight of the total weight of the dyeing composition.
- 22. Composition according to Claim 21,
  20 characterized in that the oxidation base(s) represent
  0.005 to 6% by weight of the total weight of the dyeing composition.
- 23. Composition according to any one of
  Claims 20 to 22, characterized in that it contains one
  25 or more couplers chosen from the the metaphenylenediamines, the meta-aminophenols, the metadiphenols and the heterocyclic couplers.

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20

24. Composition according to Claim 23, characterized in that the coupler(s) represent from 0.0001 to 10% by weight of the total weight of the dyeing composition.

25 Composition according to Claim 24, characterized in that the coupler(s) represent from 0.005 to 5% by weight of the total weight of the dyeing composition.

- 26. Composition according to any one of the preceding claims, characterized in that it is intended for direct lightening dyeing or oxidation dyeing and in that it then contains at least one oxidizing agent.
- 27. Method of dyeing keratinous fibres and in particular human keratinous fibres such as hair,
  15 characterized in that at least one dyeing composition as defined in any one of Claims 1 to 26 is applied to the fibres for a sufficient time to develop the desired colour, after which they are rinsed, optionally washed with shampoo, rinsed again and dried.
  - 28. Method of dyeing keratinous fibres and in particular human keratinous fibres such as hair, characterized in that at least one dyeing composition as defined in any one of Claims 1 to 26 is applied to the fibres for a sufficient time to develop the desired colour, with no final rinsing.
    - 29. Method of dyeing keratinous fibres and in particular human keratinous fibres such as hair, characterized in that it comprises a preliminary stage

consisting of storing in a separate form, on the one hand, a composition (A1) comprising, in an appropriate dyeing medium, at least one cationic direct dye (i) as defined in the preceding claims and at least one oxidation base and, on the other hand, a composition

(B1) containing, in an appropriate dyeing medium, at least one oxidizing agent, and then mixing them at the time of use before applying this mixture to the keratinous fibres, the composition (A1) or the

composition (B1) containing the quaternary ammonium salt (ii) as defined in the preceding claims.

- in particular human keratinous fibres such as hair, characterized in that it comprises a preliminary stage consisting of storing in a separate form, on the one hand, a composition (A2) comprising, in an appropriate dyeing medium, at least one cationic direct dye (i) as defined in the preceding claims and, on the other hand, a composition (B2) containing, in an appropriate dyeing medium, at least one oxidizing agent, and then mixing them at the time of use before applying this mixture to the keratinous fibres, the composition (A2) or the composition (B2) containing the quaternary ammonium salt (ii) as defined in the preceding claims.
  - 31. Multicompartment device or multicompartment dyeing "kit", characterized in that a first compartment contains composition (Al) or (A2) as defined in Claim 29 or 30 and a second compartment

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contains composition (B1) or (B2) as defined in Claim

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On page 48, line 14, delete "oleocetylhydroxyethylammonium" and replace with

--oleocetyldimethylhydroxyethylammonium--.

On page 49, line 9, in formula (VII), change "2 X" to --2 X"--.

## IN THE CLAIMS:

Please cancel claims 1 and 9-51 without prejudice or disclaimer, amend claims 2-8, and add new claims 32-77 as follows:

In claim 2, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with - A composition according to claim 32, wherein

on page 80 line 2 after "(I51);" delete "and";

on page 80, line\_4, after "(153);" insert --and--;

on page 80, line 6, delete ";" and insert a period after "(154)".

3. (Amended) A composition [Composition] according to Claim 2, [characterized in that] wherein the cationic direct dyes are chosen from the compounds having [correspond to the] structures (I1), (I2), (I14), and (I31).

In claim 4, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with -A composition according to claim 32, wherein

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14 mg

In claim 5, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with +A composition according to claim 32, wherein

a5

6. (Amended) A composition [Composition] according to Claim 5, [characterized in that] wherein the cationic direct dyes of formula (III) are chosen from the compounds [corresponding to the] having structures (III4), (III5) and (III13).

ab

In claim 7, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with - A composition according to claim 32, wherein -.

114

In claim 8, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with A composition according to claim 32, wherein

0 48

on page 104 tine 1/after (IV)76", insert --; and--.

on page 104, line 2, insert a period after "(IV)77".

Please add new claims 32 to 77 as follows:

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 --32. A composition for dyeing keratinous fibers comprising, in a medium suitable for dyeing,

- (i) at least one cationic direct dye chosen from:
  - a) cationic direct dyes of formula (I):

$$A \longrightarrow D \longrightarrow D \longrightarrow R_3$$

$$X \longrightarrow R_2$$

$$R_2$$

$$R_3$$

$$R_2$$

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

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 $R_3$  and  $R'_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X is an anion,

A is a group chosen from the following structures A<sub>1</sub> to A<sub>19</sub>:

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A<sub>13</sub>

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and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X$$

$$R_{9}$$

$$R_{7}$$

$$R_{7}$$

$$R_{1}$$

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 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or ferms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X<sup>-</sup> is an anion,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 and  $R_{10}$   $R_{10}$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E-D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X = R_{15}$$

(III)

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $$R_{15}$$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $$R_{17}$$ , which are identical or different, are a hydrogen atom or a  $$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m = 0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

when m = 0 and  $D_1$  is a nitrogen atom, then E may also be a group having the following structure E9:

E9

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G - N = N - J$$
 (IV)

in which:

the symbol G is a group chosen from the following structures G<sub>1</sub> to G<sub>3</sub>:

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in which structures  $G_1$  to  $G_3$ ,

R<sub>18</sub> is chosen from a C<sub>1</sub>-C<sub>4</sub> alkyl radical; a phenyl radical which is unsubstituted or substituted with a C<sub>1</sub>-C<sub>4</sub> alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X')<sub>r</sub>;

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X'),;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>), where r is zero or 1;

R<sub>22</sub> is chosen from an O<sup>-</sup> atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical and a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO $_2$  radical;

X is an anion;

wherein J is chosen from:

-(a) a group having the following structure  $J_1$ :

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in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl, amino and phenyl radicals, and

- (ii) at least one quaternary ammonium salt chosen from:
  - (ii)<sub>1</sub> quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

the radicals R<sup>1</sup> R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl,

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aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is a radical comprising 8 to 30

X<sup>-</sup> is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix}
R^{5} \\
N \\
CH_{2}-CH_{2}-NH-CO-R^{5}
\end{bmatrix}$$

$$CH_{3}SO_{4}^{-}$$
(VI)

in which

carbon atoms;

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

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$$\begin{bmatrix} R^{7} & R^{9} \\ N & (-CH_{2}^{-})_{3} & N - R^{11} \\ R^{8} & R^{10} \end{bmatrix} \xrightarrow{2} X^{-}$$
 (VII)

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

 $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and  $X^*$  is an anion chosen from halides, acetates, phosphates and sulphates.

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33. A composition according to Claim 32, wherein in the definition of said at least one cationic direct dye of formulas (I), (II), (III), and (III'), X- is chosen from chloride, methylsulphate, and acetate.

34. A composition according to claim 32, wherein in the definition of said cationic direct dyes of formula (IV), in G<sub>1</sub> and G<sub>2</sub>, X is chosen from chloride, iodide, methylsulphate, ethylsulphate, acetate and perchlorate.

35. A composition according to Claim 32, wherein in the definition of said cationic direct dyes of formula (IV), the 5- or 6- membered nitrogen containing heterocycle group of J is chosen from groups having the structure  $J_2$  below:

$$P_{31}$$
 $(Y)-N$ 
 $(U)_{n}$ 
 $P_{32}$ 

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in which structure J<sub>2</sub>,

 $R_{31}$  and  $R_{32}$ , which are identical or different, are chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, and a phenyl radical;

n = 0 or 1, wherein when n is 1, U is a -CO- radical.

- 36. A composition according to Claim 32, wherein said at least one cationic direct dye is present in an amount ranging from 0.001 to 10% by weight of the total weight of the composition.
- 37. A composition according to Claim 36, wherein said at least one cationic direct dye is present in an amount ranging from 0.005 to 5% by weight of the total weight of the composition.
- 38. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is a dialkyldimethylammonium or alkyltrimethylammonium salt in which the alkyl radical comprises 12 to 22 carbon atoms.
- 39. A composition according to Claim 38, wherein the quaternary ammonium salt of formula (V) is distearyldimethylammonium chloride, cetyltrimethylammonium chloride, or behenyltrimethylammonium chloride.

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- 40. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is a  $di(C_1-C_2 alkyl)(C_{12}-C_{22}alkyl)hydroxy(C_1-C_2 alkyl)ammonium salt.$
- 41. A composition according to Claim 40, wherein the quaternary ammonium salt of formula (V) is oleocetyldimethylhydroxyethylammonium chloride.
- 42. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is stearamidopropyldimethyl (myristyl acetate) ammonium chloride of formula:

$$\begin{array}{c} \text{CH}_{3} \\ \text{CH}_{3} & \longrightarrow \text{CH}_{2} & \longrightarrow_{18} \text{CONH} & \longrightarrow \text{CH}_{2} & \longrightarrow_{3} & \text{N} \\ \text{CH}_{3} & \longrightarrow \text{CH}_{2} & \longrightarrow \text{COOC}_{14} \text{H}_{29} \\ \text{CH}_{3} & \longrightarrow \text{CH}_{3} & \longrightarrow \text{CH}_{2} \\ \end{array}$$

- 43. A composition according to Claim 32, wherein said at least one quaternary ammonium salt is present in an amount ranging from 0.01 to 10% by weight of the total weight of the composition.
- 44. A composition according to Claim 43, wherein said at least one quaternary ammonium salt is present in an amount ranging from 0.05 to 5% by weight of the total weight of the composition.
- 45. A composition according to Claim 32, wherein said medium suitable for dyeing comprises water or a mixture of water and at least one organic solvent.

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46. A composition according to Claim 32, wherein the composition has a pH ranging from 2 to 11.

- 47. A composition according to Claim 46, wherein the pH ranges from 5 to 10.
- 48. A composition according to Claim 32, further comprising at least one oxidation base chosen from para-phenylenediamines, bis-phenylalkylenediamines, para-aminophenols, ortho-aminophenols and heterocyclic bases.
- 49. A composition according to Claim 48, wherein said at least one oxidation base is present in an amount ranging from 0.0005 to 12% by weight of the total weight of the composition.
- 50. A composition according to Claim 49, wherein said at least one oxidation base is present in an amount ranging from 0.005 to 6% by weight of the total weight of the composition.
- 51. A composition according to Claim 48, further comprising at least one coupler chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols and heterocyclic couplers.
- 52. A composition according to Claim 51, wherein said at least one coupler is present in an amount ranging from 0.0001 to 10% by weight of the total weight of the composition.

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- 53. A composition according to Claim 52, wherein said at least one coupler is present in an amount ranging from 0.005 to 5% by weight of the total weight of the composition.
- 54. A composition according to Claim 32, wherein the composition further comprises at least one oxidizing agent.
- 55. A composition according to Claim 54, wherein said at least one oxidizing agent is chosen from peroxides, alkali metal bromates, persalts, and enzymes.
- 56. A composition according to Claim 55, wherein said peroxides are chosen from hydrogen peroxide and urea peroxide.
- 57. A composition according to Claim 55, wherein said persalts are chosen from perborates and persulphates.
- 58. A composition according to Claim 55, wherein said enzymes are chosen from peroxidases, laccases, and two-electron oxidoreductases.
- 59. A composition according to Claim 32, wherein said keratinous fibers are human keratinous fibers.
- 60. A composition according to Claim 59, wherein said human keratinous fibers are hair.

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61. A method for dyeing keratinous fibers, comprising:

applying to said keratinous fibers for a time sufficient to develop a desired color, a composition comprising, in a medium suitable for dyeing,

- (i) at least one cationic direct dye chosen from:
  - a) cationic direct dyes of formula (i):

$$A \longrightarrow D \longrightarrow D \longrightarrow R_3$$

$$X \longrightarrow R_2$$

$$R_2$$
(i)

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

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 $R_3$  and  $R_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X is an anion,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

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$\Omega$	$R_4$ $A_4$	N-N+ R4 N-N+ R4 A5	$ \begin{array}{ccc} N-N+\\ N\\ N\\ R_{4} \end{array} $
Cont	$ \begin{array}{c} R_4 & R_4 \\ N & N + \\ R_4 & N \\ R_4 & A_7 \end{array} $	R <sub>4</sub> N N R <sub>4</sub> A <sub>8</sub>	R <sub>4</sub> , , , , , , , , , , , , , , , , , , ,
duning the world from the first factor in	N N R4 A10	$: R_{5} \xrightarrow{N=N+} R_{4}$ $A_{11}$	R <sub>4</sub> O. N+ R <sub>4</sub> A <sub>12</sub>
and the same dead the same dea	R <sub>4</sub>	S N+	N N+ R <sub>4</sub> S A <sub>15</sub>
	R** N+ N- S	$R_4$ $N_+$ $N$ $S$	N-N+ R <sub>4</sub>

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A<sub>18</sub>

and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X = R_9$$

$$R_7$$

$$R_7$$

$$R_9$$
(II)

in which:

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R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkoy radical; a  $C_1$ - $C_4$  alkoy radical; and a -CN radical,

X<sup>-</sup> is an anion,

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B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{11}$ 
 $R_{12}$ 
 $R_{12}$ 
 $R_{13}$ 
 $R_{14}$ 
 $R_{15}$ 
 $R_{10}$ 
 $R$ 

**B**5

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**B6** 

in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E-D_1 = D_2 - (N)_m$$
 $R_{15}$ 

(III)

$$E-D_{1}=D_{2}$$

$$X^{-}$$

$$R_{17}$$

$$R_{16}$$
(III')

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $$\rm R_{15}$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$\rm R_{16}$  and  $\rm R_{17},$  which are identical or different, are a hydrogen atom or a  $\rm C_1\text{-}C_4$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m=0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a  $C_1$ - $C_4$  alkyl radical;

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when  $m \approx 0$  and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

E9

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G_{N} J (IV)$$

in which:

the symbol G is a group chosen from the following structures G<sub>1</sub> to G<sub>3</sub>:

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Z Z X · R<sub>18</sub>

G

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in which structures  $G_1$  to  $G_3$ ,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>)<sub>r</sub>;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>), where r is zero or 1;

 $R_{22}$  is chosen from an  $O^-$  atom, a  $C_1$ - $C_4$  alkoxy radical and a  $C_1$ - $C_4$  alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X<sup>-</sup> is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl, amino and phenyl radicals, and

(ii) at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

the radicals R<sup>1</sup> R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl,

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aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R1, R2, R3 and R4 is a radical comprising 8 to 30 carbon atoms;

X is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix} R^{5} \\ N \\ CH_{2}\text{-}CH_{2}\text{-}NH\text{-}CO\text{-}R^{5} \end{bmatrix} + CH_{3}SO_{4}^{-}$$
(VI)

in which

R5 is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

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$$\begin{bmatrix}
R^{7} & R^{9} \\
R^{6} & N & -(-CH_{2}-)_{3} & N & -R^{11} \\
R^{8} & R^{10}
\end{bmatrix}^{+} \xrightarrow{2} X^{-} \qquad (VII)$$

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

 $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and  $X^7$  is an anion chosen from halides, acetates, phosphates and sulphates.

- 62. A method according to claim 61, further comprising rinsing said keratinous fibers after applying said composition thereon.
  - 63. A method according to claim 62, further comprising washing said keratinous fibers with shampoo after said rinsing; and rinsing again said keratinous fibers after said washing.
- 64. A method according to claim 63, further comprising, after said washing and rinsing, drying said keratinous fibers.

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65. A method according to claim 61, wherein said keratinous fibers are human keratinous fibers.

66. A method according to claim 65, wherein said human keratinous fibers are hair.

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67. A method for dyeing keratinous fibers, comprising

separately storing a first composition and a second composition;

mixing said first composition with said second composition before applying the resultant mixture to said keratinous fibers; and

applying said mixture to the keratinous fibers,

wherein said first composition comprises, in a medium suitable for dyeing, at least one oxidation base and at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):

$$A - D = D - \begin{pmatrix} R_1 \\ R_2 \end{pmatrix} - \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$
 (1)

in which:

D is a nitrogen atom or a -CH group,

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 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

 $R_3$  and  $R'_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X' is an anion,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

R<sub>4</sub>

P. R.

R<sub>4</sub> N

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A<sub>18</sub>

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in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X \cdot R_9$$

$$R_7$$

$$R_7$$

$$R_7$$

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R<sub>8</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

R<sub>7</sub> is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_{\delta}$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_{\text{8}}$  and  $R_{\text{9}}$  , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a C1-C4 alkyl radical; a C<sub>1</sub>-C<sub>4</sub> alkoxy radical; and a -CN radical,

X' is an anion,

B represents a group chosen from the following structures B1 to B6:

**B**5

**B4** 

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**B6** 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E-D_1 = D_2 - (N)_m - R_{13}$$

(III)

in which:

 $R_{13}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $\ensuremath{R_{\text{15}}}$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

R<sub>16</sub> and R<sub>17</sub>, which are identical or different, are a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$ simultaneously are -CH groups and m = 0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

the following structure E9:

when m = 0 and  $D_1$  is a nitrogen atom, then E may also be a group having

Cont

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

 $G_{N} \longrightarrow N \longrightarrow J$  (IV)

in which:

the symbol G is a group chosen from the following structures G<sub>1</sub> to G<sub>3</sub>:

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in which structures G<sub>1</sub> to G<sub>3</sub>,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),;

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X'), where r is zero or 1;

R<sub>22</sub> is chosen from an O<sup>-</sup> atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical and a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X' is an anion;

## wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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J,

in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii), - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R¹ R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X' is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix} R^{5} \\ N \\ CH_{2}-CH_{2}-NH-CO-R^{5} \end{bmatrix} + CH_{3}SO_{4}$$
 (VI)

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in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix}
R^{7} & R^{9} \\
R & N & (-CH_{2}-)_{3} & N & -R^{11} \\
R^{8} & R^{10}
\end{bmatrix}^{+} + (VII)$$

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

 $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and  $X^2$  is an anion chosen from halides, acetates, phosphates and sulphates.

68. A method according to claim 67, wherein said keratinous fibers are human keratinous fibers.

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69. A method according to claim 68, wherein said human keratinous fibers are

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70. A method for dyeing keratinous fibers, comprising

separately storing a first composition and a second composition;

mixing said first composition with said second composition before applying the resultant mixture to said keratinous fibers; and

applying said mixture to the keratinous fibers,

wherein said first composition comprises, in a medium suitable for dyeing: at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):

$$A - D = D - \begin{pmatrix} R_1 \\ R_2 \end{pmatrix} - N \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$
 (1)

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$ 

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radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one C<sub>1</sub>-C<sub>4</sub> alkyl radical; and a 4'-aminophenyl radical,

R<sub>3</sub> and R'<sub>3</sub>, which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X is an anion,

A is a group chosen from the following structures A<sub>1</sub> to A<sub>19</sub>:

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	•	
R <sub>4</sub> -N	N-N+  N-N+  R <sub>4</sub> N  R <sub>4</sub> A <sub>5</sub>	N-N+  N-N+  R <sub>4</sub> A <sub>6</sub>
R <sub>4</sub> R <sub>4</sub> R <sub>4</sub> R <sub>4</sub> A <sub>7</sub>	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	R <sub>4</sub> + N N N N N N N N N N N N N N N N N N
N, N, R, A	$R_{s} \xrightarrow{N=N+} A_{11}$	; P <sub>4</sub> P <sub>4</sub> P <sub>4</sub> A <sub>12</sub>
	N+ R <sub>4</sub> A <sub>14</sub>	N N+ R <sub>4</sub> S A <sub>15</sub>
R <sub>4</sub>	$ \begin{array}{c} R_4 \\ N \end{array} $	N N+ R4

A,,

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 $A_{18}$ 

and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1\text{-}C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X$$

$$R_{g}$$

$$R_{7}$$

$$R_{7}$$

$$R_{7}$$

$$R_{7}$$

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 $R_6$  is a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

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 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X- is an anion,

B represents a group chosen from the following structures B1 to B6:

**B**5

**B**4

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**B**6

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E-D_1 = D_2 - (N)_m$$
 $R_{13}$ 
 $R_{15}$ 

(III)

$$E-D_1=D_2$$

$$X \cdot \bigcup_{\substack{R_{17} \\ R_{16}}} (III')$$

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $R_{15}$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $R_{16}$  and  $R_{17}$ , which are identical or different, are a hydrogen atom or a  $C_1\text{-}C_4$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1.

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m=0,

X' is an anion,

E is a group chosen from the following structures E1 to E8:

E1

E2

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E8

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

when m = 0 and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G_{N=N-J}$$
 (IV)

in which:

the symbol  ${\bf G}$  is a group chosen from the following structures  ${\bf G_1}$  to  ${\bf G_3}$ :

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in which structures  $G_1$  to  $G_3$ ,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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 $R_{19}$  is a  $C_1$ - $C_4$  alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>)<sub>r</sub>;

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>2</sup>)<sub>r</sub>;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>), where r is zero or 1;

R<sub>22</sub> is chosen from an O atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical and a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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in which structure  $J_1$ ,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $\rm R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR  $_{28}$  radical, and an -NR  $_{29}\rm R_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R¹ R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X<sup>-</sup> is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix} R^{5} \\ N \\ CH_{2}-CH_{2}-NH-CO-R^{5} \end{bmatrix} + CH_{3}SO_{4}$$
 (VI)

in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix} R^{7} & R^{9} \\ N & -(-CH_{2}-)_{3} & N - R^{11} \\ R^{8} & R^{10} \end{bmatrix} \times X^{-}$$
 (VII)

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X<sup>1</sup> is an anion chosen from halides, acetates, phosphates and sulphates.

71. A method according to claim 70, wherein said keratinous fibers are human keratinous fibers.

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A method according to claim 71, wherein said human keratinous fibers are 72. hair.

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73. A multicompartment dyeing kit wherein a first compartment contains a first composition and a second compartment contains a second composition,

wherein said first composition comprises, in a medium suitable for dyeing, at least one oxidation base and at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (!):

$$A - D = D - R_3$$

$$X \cdot R_3$$

$$R_2$$

$$(1)$$

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle

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optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

 $R_3$  and  $R'_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X' is an anion,

A is a group chosen from the following structures  $A_{\mbox{\scriptsize 1}}$  to  $A_{\mbox{\scriptsize 19}}$ :

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and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$R_{8}$$

$$R_{9}$$

$$R_{7}$$

$$R_{7}$$

$$R_{9}$$

$$R_{1}$$

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in which:

R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X' is an anion,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E - D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X - R_{15} - R_{13}$$

$$X - R_{15} -$$

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $$\rm R_{15}$$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$\rm R_{16}$$  and  $\rm R_{17},$  which are identical or different, are a hydrogen atom or a  $\rm C_1\text{-}C_4$  alkyl radical,

D<sub>1</sub> and D<sub>2</sub>, which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m = 0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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Finnegan, Henderson, Farabow, Garrett, & Dunner, L.L.P. 1300 i street, n. w. washington, dc 20005 202-408-4000 in which R' is a  $C_1$ - $C_4$  alkyl radical;

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when m=0 and  $D_1$  is a nitrogen atom, then E may also be a group having the following structure E9:

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G - N = N - J$$
 (IV)

in which:

the symbol  ${\bf G}$  is a group chosen from the following structures  $G_1$  to  $G_3$ :

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G,

G<sub>2</sub>

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> > in which structures  $G_1$  to  $G_3$ ,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X'),

K is a group chosen from -CH; -CR wherein R is  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>)<sub>r</sub>;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>), where r is zero or 1;

R<sub>22</sub> is chosen from an O<sup>-</sup> atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical and a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X is an anion;

## wherein J is chosen from:

-(a) a group having the following structure J::

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in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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R<sub>29</sub> and R<sub>30</sub>, which are identical or different, are chosen from a C<sub>1</sub>-C<sub>4</sub> alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C1-C4 alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R<sup>1</sup> R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is a radical comprising 8 to 30 carbon atoms;

X<sup>-</sup> is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix} R^{5} \\ N \\ CH_{2}-CH_{2}-NH-CO-R^{5} \end{bmatrix} CH_{3}SO_{4}$$
(VI)

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in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix}
R^{7} & R^{9} \\
R^{6} & N - (-CH_{2}-)_{3} - N - R^{11} \\
R^{8} & R^{10}
\end{bmatrix}^{+} + (VII)$$

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X<sup>-</sup> is an anion chosen from halides, acetates, phosphates and sulphates.

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74. A multicompartment dyeing kit wherein a first compartment contains a first composition and a second compartment contains a second composition,

wherein said first composition comprises, in a medium suitable for dyeing: at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):

$$A \longrightarrow D \longrightarrow D \longrightarrow R_3$$

$$X \cdot R_3$$

$$R_2$$

$$(1)$$

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

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 $R_3$  and  $R'_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X is an anion,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

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A<sub>18</sub>

and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_{\scriptscriptstyle 1}$  and  $R_{\scriptscriptstyle 2}$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X$$

$$R_{g}$$

$$R_{7}$$

$$R_{7}$$

$$R_{9}$$

$$R_{1}$$

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in which:

R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X is an anion,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{11}$ 
 $R_{12}$ 
 $R_{12}$ 
 $R_{13}$ 
 $R_{14}$ 
 $R_{15}$ 
 $R$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E-D, = D_2 - (N)_m$$

$$X - R_{15}$$
(III)

in which:

 $R_{13}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $$R_{\mbox{\scriptsize 15}}$$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $$R_{17}$$ , which are identical or different, are a hydrogen atom or a  $$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m = 0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

N+ E2

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

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when m = 0 and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

E9

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G \longrightarrow N \longrightarrow J$$
 (IV)

in which:

the symbol G is a group chosen from the following structures G<sub>1</sub> to G<sub>3</sub>:

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G.

G,

in which structures G<sub>1</sub> to G<sub>3</sub>,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X')<sub>r</sub>;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X'), where r is zero or 1;

 $R_{22}$  is chosen from an  $O^{-}$  atom, a  $C_1$ - $C_4$  alkoxy radical and a  $C_1$ - $C_4$  alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X<sup>-</sup> is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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J,

in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R<sup>1</sup> R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is a radical comprising 8 to 30 carbon atoms;

X is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix} R^{5} \\ N \\ CH_{2}\text{-}CH_{2}\text{-}NH\text{-}CO\text{-}R^{5} \end{bmatrix} + CH_{3}SO_{4}^{-}$$
(VI)

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in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii) $_3$  - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix}
R^{6} & R^{7} & R^{9} \\
R^{6} & N & (-CH_{2}-)_{3} & N & -R^{11} \\
R^{8} & R^{10}
\end{bmatrix}^{+} X^{-} \qquad (VII)$$

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X is an anion chosen from halides, acetates, phosphates and sulphates.

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75. A composition for dyeing keratinous fibers, comprising a cationic direct dye of structure (I1):

$$CH^{3}$$

$$N = N$$

$$N - CH^{3}$$

$$CI.$$

$$(11)$$

and oleocetyldimethylhydroxyethylammonium chloride.

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76. A composition for dyeing keratinous fibers, comprising:

a cationic direct dye of structure (I14):

$$CH_3$$
 $N=N$ 
 $NH_2$ 
 $CI$ 
 $CH_3$ 
 $CH_3$ 

and behenyltrimethylammonium chloride.

77. A composition for dyeing keratinous fibers, comprising:

a cationic direct dye of structure (IV)<sub>27</sub>:

$$CH_3$$
 $CH_3$ 
 $CH_3SO_4$ 

and cetyltrimethylammonium chloride.--

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On page 48, line 14, delete "oleocetylhydroxyethylammonium" and replace with

--oleocetyldimethylhydroxyethylammonium--.

On page 49, line 9, in formula (VII), change "2 X" to --2 X--.

### IN THE CLAIMS:

Please cancel claims 1 and 9-81 without prejudice or disclaimer, amend claims 2-8, and add new claims 32-77 as follows:

In claim 2, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with - A composition according to claim 32, wherein

on page 80 line 2 after "(I51);" delete "and";

on page 80, line 4, after "(153);" insert --and--;

on page 80, line 6, delete ";" and insert a period after "(154)".

3. (Amended) A composition [Composition] according to Claim 2, [characterized in that] wherein the cationic direct dyes are chosen from the compounds having [correspond to the] structures (I1), (I2), (I14), and (I31).

In claim 4, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with -IA composition according to claim 32, wherein

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In claim 5, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with FA composition according to claim 32, wherein

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6. (Amended) A composition [Composition] according to Claim 5, [characterized in that] wherein the cationic direct dyes of formula (III) are chosen from the compounds [corresponding to the] having structures (III4), (III5) and (III13).

ab

In claim 7, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with -A composition according to claim 32, wherein -.

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In claim 8, lines 1-2, delete "Composition according to claim 1, characterized in that" and replace with A composition according to claim 32, wherein

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on page 104 line 1/after (IV)76", insert --; and--.

on page 104, line 2, insert a period after "(IV)77".

Please add new claims 32 to 77 as follows:

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- (i) at least one cationic direct dye chosen from:
  - a) cationic direct dyes of formula (I):

$$A - D = D - R_3$$

$$X \cdot R_2$$

$$R_3$$

$$R_1$$

$$R_2$$

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

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 $R_3$  and  $R'_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

X<sup>-</sup> is an anion,

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291 Cont

$$R_5$$
 $N = N + R_5$ 

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and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

#### b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X$$

$$R_{9}$$

$$R_{7}$$

$$R_{7}$$

$$R_{1}$$

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in which:

R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or ferms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X<sup>-</sup> is an anion,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R_{10}$ 
 $R_{10}$ 
 $R_{11}$ 
 $R_{12}$ 
 $R_{13}$ 
 $R_{14}$ 
 $R_{10}$ 
 $R$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (ill) and formula (ill'):

$$E - D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X = R_{15}$$
(III)

$$E-D_1=D_2$$

$$X \cdot \bigcup_{\substack{R_{16} \\ R_{16}}}$$
(III')

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

 $$R_{\rm 15}$$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $$R_{17}$$ , which are identical or different, are a hydrogen atom or a  $$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m = 0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

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when m = 0 and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G \longrightarrow N \longrightarrow J$$
 (IV)

in which:

the symbol G is a group chosen from the following structures G<sub>1</sub> to G<sub>3</sub>:

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G,

G,

in which structures  $G_1$  to  $G_3$ ,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is  $C_1$ - $C_4$  alkyl; and -NR $_{22}(X^{\cdot})_r$ ;

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X'),;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>), where r is zero or 1;

 $R_{22}$  is chosen from an  $O^{-}$  atom, a  $C_1$ - $C_4$  alkoxy radical and a  $C_1$ - $C_4$  alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}R_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl, amino and phenyl radicals, and

- (ii) at least one quaternary ammonium salt chosen from:
  - (ii)<sub>1</sub> quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

the radicals R<sup>1</sup> R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl,

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aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is a radical comprising 8 to 30 carbon atoms;

X<sup>-</sup> is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix}
R^{5} \\
N \\
CH_{2}-CH_{2}-NH-CO-R^{5}
\end{bmatrix}$$

$$CH_{3}SO_{4}^{7}$$
(VI)

in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

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$$\begin{bmatrix} R^{7} & R^{9} \\ R^{6} & N - (-CH_{2}^{-})_{3} - N - R^{11} \end{bmatrix}^{++}_{2} X^{-}$$
 (VII)

Q9 0014

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X<sup>-</sup> is an anion chosen from halides, acetates, phosphates and sulphates.

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- 33. A composition according to Claim 32, wherein in the definition of said at least one cationic direct dye of formulas (I), (II), (III), and (III'), X- is chosen from chloride, methylsulphate, and acetate.
- 34. A composition according to claim 32, wherein in the definition of said cationic direct dyes of formula (IV), in  $G_1$  and  $G_2$ ,  $X^-$  is chosen from chloride, iodide, methylsulphate, ethylsulphate, acetate and perchlorate.
- 35. A composition according to Claim 32, wherein in the definition of said cationic direct dyes of formula (IV), the 5- or 6- membered nitrogen containing heterocycle group of J is chosen from groups having the structure  $J_2$  below:

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in which structure J<sub>2</sub>,

R<sub>31</sub> and R<sub>32</sub>, which are identical or different, are chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and a phenyl radical;

n = 0 or 1, wherein when n is 1, U is a -CO- radical.

- 36. A composition according to Claim 32, wherein said at least one cationic direct dye is present in an amount ranging from 0.001 to 10% by weight of the total weight of the composition.
- 37. A composition according to Claim 36, wherein said at least one cationic direct dye is present in an amount ranging from 0.005 to 5% by weight of the total weight of the composition.
- 38. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is a dialkyldimethylammonium or alkyltrimethylammonium salt in which the alkyl radical comprises 12 to 22 carbon atoms.
- 39. A composition according to Claim 38, wherein the quaternary ammonium salt of formula (V) is distearyldimethylammonium chloride, cetyltrimethylammonium chloride, or behenyltrimethylammonium chloride.

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- 40. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is a  $di(C_1-C_2 alkyl)(C_{12}-C_{22}alkyl)hydroxy(C_1-C_2 alkyl)ammonium salt.$
- 41. A composition according to Claim 40, wherein the quaternary ammonium salt of formula (V) is oleocetyldimethylhydroxyethylammonium chloride.
- 42. A composition according to Claim 32, wherein the quaternary ammonium salt of formula (V) is stearamidopropyldimethyl (myristyl acetate) ammonium chloride of formula:

$$CH_{3} \xrightarrow{CH_{2}} CONH \xrightarrow{CH_{2}} COOC_{14}H_{20} \qquad CI^{-1}$$

$$CH_{3} \xrightarrow{CH_{2}} COOC_{14}H_{20} \qquad CI^{-1}$$

- 43. A composition according to Claim 32, wherein said at least one quaternary ammonium salt is present in an amount ranging from 0.01 to 10% by weight of the total weight of the composition.
- 44. A composition according to Claim 43, wherein said at least one quaternary ammonium salt is present in an amount ranging from 0.05 to 5% by weight of the total weight of the composition.
- 45. A composition according to Claim 32, wherein said medium suitable for dyeing comprises water or a mixture of water and at least one organic solvent.

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46. A composition according to Claim 32, wherein the composition has a pH ranging from 2 to 11.

- 47. A composition according to Claim 46, wherein the pH ranges from 5 to 10.
- 48. A composition according to Claim 32, further comprising at least one oxidation base chosen from para-phenylenediamines, bis-phenylalkylenediamines, para-aminophenols, ortho-aminophenols and heterocyclic bases.
- 49. A composition according to Claim 48, wherein said at least one oxidation base is present in an amount ranging from 0.0005 to 12% by weight of the total weight of the composition.
- 50. A composition according to Claim 49, wherein said at least one oxidation base is present in an amount ranging from 0.005 to 6% by weight of the total weight of the composition.
- 51. A composition according to Claim 48, further comprising at least one coupler chosen from meta-phenylenediamines, meta-aminophenols, meta-diphenols and heterocyclic couplers.
- 52. A composition according to Claim 51, wherein said at least one coupler is present in an amount ranging from 0.0001 to 10% by weight of the total weight of the composition.

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- 53. A composition according to Claim 52, wherein said at least one coupler is present in an amount ranging from 0.005 to 5% by weight of the total weight of the composition.
- 54. A composition according to Claim 32, wherein the composition further comprises at least one oxidizing agent.
- 55. A composition according to Claim 54, wherein said at least one oxidizing agent is chosen from peroxides, alkali metal bromates, persalts, and enzymes.
- 56. A composition according to Claim 55, wherein said peroxides are chosen from hydrogen peroxide and urea peroxide.
- 57. A composition according to Claim 55, wherein said persalts are chosen from perborates and persulphates.
- 58. A composition according to Claim 55, wherein said enzymes are chosen from peroxidases, laccases, and two-electron oxidoreductases.
- 59. A composition according to Claim 32, wherein said keratinous fibers are human keratinous fibers.
- 60. A composition according to Claim 59, wherein said human keratinous fibers are hair.

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# 61. A method for dyeing keratinous fibers, comprising:

applying to said keratinous fibers for a time sufficient to develop a desired color, a composition comprising, in a medium suitable for dyeing,

(i) at least one cationic direct dye chosen from:

#### a) cationic direct dyes of formula (I):

$$A - D = D - R_3$$

$$X \cdot R_3$$

$$R_2$$
(1)

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

 $R_3$  and  $R_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X<sup>-</sup> is an anion,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

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in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

# b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X \cdot R_{9}$$

$$R_{7}$$

$$R_{7}$$

$$R_{1}$$

in which:

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R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X<sup>-</sup> is an anion,

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B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R_{10}$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E - D_1 = D_2 - (N)_m$$

$$X = R_{15}$$
(III)

$$E-D_1=D_2$$

$$X - \bigcup_{\substack{R_{17} \\ R_{16}}}$$

$$(III')$$

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $$R_{\rm 15}$$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $$R_{17}$$  , which are identical or different, are a hydrogen atom or a  $$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m=0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

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when m = 0 and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

E9

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

in which:

the symbol  ${\bf G}$  is a group chosen from the following structures  ${\bf G_1}$  to  ${\bf G_3}$ :

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in which structures  $G_1$  to  $G_3$ ,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>2</sup>),

K is a group chosen from -CH; -CR wherein R is  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>)<sub>r</sub> where r is zero or 1;

 $R_{22}$  is chosen from an  $O^-$  atom, a  $C_1$ - $C_4$  alkoxy radical and a  $C_1$ - $C_4$  alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO $_2$  radical;

X is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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$$R_{25}$$
  $R_{26}$   $R_{26}$ 

in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl, amino and phenyl radicals, and

- (ii) at least one quaternary ammonium salt chosen from:
  - (ii)<sub>1</sub> quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + \mathbf{x}^{-} \qquad (V)$$

in which

the radicals R<sup>1</sup> R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl,

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aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is a radical comprising 8 to 30 carbon atoms;

X is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix}
R^{5} \\
N \\
CH_{2}-CH_{2}-NH-CO-R^{5}
\end{bmatrix}$$

$$CH_{3}SO_{4}^{-}$$
(VI)

in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

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$$\begin{bmatrix} R^{7} & R^{9} \\ R^{6} & N & (-CH_{2}^{-})_{3} & N & -R^{11} \\ R^{8} & R^{10} \end{bmatrix}^{+} \chi^{-}$$
 (VII)

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

 $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and  $X^2$  is an anion chosen from halides, acetates, phosphates and sulphates.

- 62. A method according to claim 61, further comprising rinsing said keratinous fibers after applying said composition thereon.
  - 63. A method according to claim 62, further comprising washing said keratinous fibers with shampoo after said rinsing; and rinsing again said keratinous fibers after said washing.
- 64. A method according to claim 63, further comprising, after said washing and rinsing, drying said keratinous fibers.

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65. A method according to claim 61, wherein said keratinous fibers are human keratinous fibers.

66. A method according to claim 65, wherein said human keratinous fibers are hair.

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67. A method for dyeing keratinous fibers, comprising

separately storing a first composition and a second composition;

mixing said first composition with said second composition before applying the resultant mixture to said keratinous fibers; and

applying said mixture to the keratinous fibers,

at least one cationic direct dye chosen from:

wherein said first composition comprises, in a medium suitable for dyeing, at least one oxidation base and

a) cationic direct dyes of formula (I):

$$A - D = D - \begin{pmatrix} R'_3 \\ N \\ R_3 \end{pmatrix} = \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$
 (1)

in which:

D is a nitrogen atom or a -CH group,

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 $R_{\scriptscriptstyle 1}$  and  $R_{\scriptscriptstyle 2},$  which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$ radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one C<sub>1</sub>-C<sub>4</sub> alkyl radical; and a 4'-aminophenyl radical,

 $\ensuremath{\mathsf{R}}_3$  and  $\ensuremath{\mathsf{R}}'_3,$  which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a C<sub>1</sub>-C<sub>4</sub> alkyl radical; a C<sub>1</sub>-C<sub>4</sub> alkoxy radical; and an acetyloxy radical,

X is an anion,

A is a group chosen from the following structures A<sub>1</sub> to A<sub>19</sub>:

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R <sub>4</sub> -N	N-N+ R <sub>4</sub> N R <sub>4</sub> A <sub>5</sub>	N-N+ N R <sub>4</sub> A <sub>8</sub>
$ \begin{array}{c} R_4 \\ N_+ \\ N \\ R_4 \end{array} $ $ A_7 $	R <sub>4</sub> +N/N/R <sub>4</sub>	R <sub>4</sub> N N R <sub>4</sub> A <sub>9</sub>
N-N-R4 R4	$R_{5} = N + A_{11}$	R <sub>4</sub> O. N+ R <sub>4</sub> A <sub>12</sub>
N4 R <sub>4</sub> A <sub>13</sub>	; S A <sub>14</sub>	N N+ N+ S
R4 N+ S	$R_4$ $N+$ $N$	N N+ R4

A<sub>17</sub>

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 $A_{16}$ 

A<sub>18</sub>

and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X$$

$$R_{9}$$

$$R_{7}$$

$$R_{7}$$

$$R_{1}$$

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in which:

R<sub>8</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X is an anion,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E - D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X = R_{15}$$

(111)

$$E-D_{1}=D_{2}$$
 $X \cdot P_{17} \cdot P_{16}$ 

(III')

in which:

 $R_{13}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $R_{15}$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $$R_{17}$$ , which are identical or different, are a hydrogen atom or a  $$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m = 0,

X' is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

when m=0 and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

**=**0

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G \longrightarrow N \longrightarrow J$$
 (IV)

in which:

the symbol G is a group chosen from the following structures  $G_1$  to  $G_3$ :

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>)<sub>r</sub>;

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>\*</sup>),;

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>)<sub>r</sub> where r is zero or 1;

 $R_{22}$  is chosen from an O atom, a  $C_1$ - $C_4$  alkoxy radical and a  $C_1$ - $C_4$  alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X' is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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$$R_{25}$$
  $R_{26}$   $R_{26}$ 

in

in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R¹ R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X' is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix} R^{5} \\ N \\ CH_{2}-CH_{2}-NH-CO-R^{5} \end{bmatrix} + CH_{3}SO_{4}$$
(VI)

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in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix} R^{7} & R^{9} \\ R & N & (-CH_{2}-)_{3} & N & R^{11} \\ R^{8} & R^{10} \end{bmatrix} _{2} X^{-}$$
 (VII)

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X<sup>-</sup> is an anion chosen from halides, acetates, phosphates and sulphates.

A method according to claim 67, wherein said keratinous fibers are human 68. keratinous fibers.

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A method according to claim 68, wherein said human keratinous fibers are 69.

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70. A method for dyeing keratinous fibers, comprising

separately storing a first composition and a second composition;

mixing said first composition with said second composition before applying the resultant mixture to said keratinous fibers; and

applying said mixture to the keratinous fibers,

wherein said first composition comprises, in a medium suitable for dyeing: at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):

$$A - D = D - R_3$$

$$X \cdot R_2$$

$$R_3$$

$$(1)$$

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$ 

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radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one C<sub>1</sub>-C<sub>4</sub> alkyl radical; and a 4'-aminophenyl radical,

 $\ensuremath{\text{R}}_3$  and  $\ensuremath{\text{R}'}_3$  , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a C<sub>1</sub>-C<sub>4</sub> alkyl radical; a C<sub>1</sub>-C<sub>4</sub> alkoxy radical; and an acetyloxy radical,

X is an anion,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

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A<sub>15</sub> A,a

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and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X$$

$$R_{g}$$

$$R_{7}$$

$$R_{7}$$

$$R_{7}$$

$$R_{7}$$

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in which:

R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X is an anion,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E-D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X = R_{15}$$
(III)

$$E-D_1=D_2$$

$$X \cdot \bigcup_{\substack{R_{17} \\ R_{16}}}$$
(III')

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $R_{15}$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $R_{17},$  which are identical or different, are a hydrogen atom or a  $$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m=0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a  $C_1$ - $C_4$  alkyl radical;

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when m = 0 and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

E9

in which R' is a  $C_1$ - $C_4$  alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G \longrightarrow N \longrightarrow J$$
 (IV)

in which:

the symbol  $\boldsymbol{G}$  is a group chosen from the following structures  $\boldsymbol{G}_1$  to  $\boldsymbol{G}_3$ :

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G,

in which structures  $G_1$  to  $G_3$ ,

R<sub>18</sub> is chosen from a C<sub>1</sub>-C<sub>4</sub> alkyl radical; a phenyl radical which is unsubstituted or substituted with a C<sub>1</sub>-C<sub>4</sub> alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),;

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X')<sub>r</sub>;

P is a group chosen from -CH; -CR wherein R denotes C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>), where r is zero or 1;

R<sub>22</sub> is chosen from an O atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical and a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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$$R_{25}$$
  $R_{26}$   $R_{26}$ 

in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}R_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R¹ R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X<sup>-</sup> is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix}
R^{5} \\
N \\
CH_{2}-CH_{2}-NH-CO-R^{5}
\end{bmatrix}
+ CH_{3}SO_{4}^{-}$$
(VI)

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in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(II)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix} R^{7} & R^{9} \\ R & N - - (-CH_{2} -)_{3} - N - R^{11} \\ R^{8} & R^{10} \end{bmatrix} _{2} X^{-}$$
 (VII)

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X<sup>1</sup> is an anion chosen from halides, acetates, phosphates and sulphates.

71. A method according to claim 70, wherein said keratinous fibers are human keratinous fibers.

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A method according to claim 71, wherein said human keratinous fibers are 72.

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73. A multicompartment dyeing kit wherein a first compartment contains a first composition and a second compartment contains a second composition,

wherein said first composition comprises, in a medium suitable for dyeing, at least one oxidation base and at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):

$$A - D = D - \begin{pmatrix} R_1 \\ R_3 \end{pmatrix} - \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$
 (1)

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle

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optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1\text{-}C_4$  alkyl radical; and a 4'-aminophenyl radical,

 $\ensuremath{\mathsf{R}}_3$  and  $\ensuremath{\mathsf{R}'}_3$  , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

X is an anion,

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A<sub>15</sub> `N´ | | R<sub>4</sub>

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and

in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X - R_9$$

$$R_7$$

$$R_7$$

$$R_9$$
(II)

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in which:

R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X' is an anion,

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R$ 

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a  $C_1$ - $C_4$  alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E - D_{1} = D_{2} - (N)_{m}$$

$$X = R_{15}$$

$$(III)$$

$$E-D_1=D_2$$

$$X \cdot \bigcup_{\substack{R_{17} \\ R_{18}}} (III')$$

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl group,

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 $$R_{\mbox{\scriptsize 15}}$$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $$R_{17}$, which are identical or different, are a hydrogen atom or a <math display="inline">$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m = 0,

X<sup>-</sup> is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a  $C_1$ - $C_4$  alkyl radical;

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when m=0 and  $D_1$  is a nitrogen atom, then E may also be a group having the following structure E9:

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G - N = N - J$$
 (IV)

in which:

the symbol  ${\bf G}$  is a group chosen from the following structures  ${\bf G_1}$  to  ${\bf G_3}$ :

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G,

G<sub>2</sub>

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in which structures G<sub>1</sub> to G<sub>3</sub>,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>)<sub>r</sub>;

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>-</sup>), where r is zero or 1;

 $R_{22}$  is chosen from an  $O^-$  atom, a  $C_1$ - $C_4$  alkoxy radical and a  $C_1$ - $C_4$  alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from C<sub>1</sub>-C<sub>4</sub> alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R<sup>1</sup> R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is a radical comprising 8 to 30 carbon atoms;

X<sup>-</sup> is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

$$\begin{bmatrix}
R^{5} \\
N \\
CH_{2}-CH_{2}-NH-CO-R^{5}
\end{bmatrix}$$

$$CH_{3}SO_{4}$$
(VI)

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in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix} R^{7} & R^{9} \\ R & N & (-CH_{2}^{-})_{3} & N & R^{11} \\ R^{8} & R^{10} \end{bmatrix}^{+} \chi^{-}$$
 (VII)

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms.

R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and X<sup>1</sup> is an anion chosen from halides, acetates, phosphates and sulphates.

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74. A multicompartment dyeing kit wherein a first compartment contains a first composition and a second compartment contains a second composition,

wherein said first composition comprises, in a medium suitable for dyeing: at least one cationic direct dye chosen from:

a) cationic direct dyes of formula (I):

$$A - D = D - \begin{pmatrix} R'_3 \\ N \end{pmatrix} = \begin{pmatrix} R_1 \\ R_2 \end{pmatrix}$$

$$(1)$$

in which:

D is a nitrogen atom or a -CH group,

 $R_1$  and  $R_2$ , which are identical or different, are chosen from a hydrogen atom; a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a -CN, -OH or -NH $_2$  radical or form with each other or a carbon atom of the benzene ring a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with at least one  $C_1$ - $C_4$  alkyl radical; and a 4'-aminophenyl radical,

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 $R_3$  and  $R'_3$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a cyano radical; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an acetyloxy radical,

X is an anion,

A is a group chosen from the following structures  $A_1$  to  $A_{19}$ :

N N A

LN A

R<sub>4</sub>-N<sub>N</sub>

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in which  $R_4$  is a  $C_1$ - $C_4$  alkyl radical which is unsubstituted or substituted with a hydroxyl radical and  $R_5$  is a  $C_1$ - $C_4$  alkoxy radical,

with the proviso that when D represents -CH, A is  $A_4$  or  $A_{13}$  and  $R_3$  is different from an alkoxy radical, then  $R_1$  and  $R_2$  are not simultaneously hydrogen atoms;

## b) cationic direct dyes of formula (II):

$$B-N=N$$

$$X$$

$$R_{9}$$

$$R_{7}$$

$$R_{7}$$

$$R_{1}$$

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in which:

R<sub>6</sub> is a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical,

 $R_7$  is chosen from a hydrogen atom; an alkyl radical which is unsubstituted or substituted with a -CN radical or with an amino group; and a 4'-aminophenyl radical, or forms with  $R_6$  a heterocycle optionally containing at least one of oxygen and nitrogen and which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical,

 $R_8$  and  $R_9$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from bromine, chlorine, fluorine, and iodine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a -CN radical,

X is an anion,

**B4** 

B represents a group chosen from the following structures B1 to B6:

$$R_{10}$$
 $R_{10}$ 
 $R_{10}$ 

**B**5

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in which  $R_{10}$  is a  $C_1$ - $C_4$  alkyl radical,  $R_{11}$  and  $R_{12}$ , which are identical or different, are a hydrogen atom or a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

c) cationic direct dyes of the following formula (III) and formula (III'):

$$E - D_{1} = D_{2} - (N)_{m} - R_{13}$$

$$X \cdot R_{15}$$

(III)

in which:

R<sub>13</sub> is chosen from a hydrogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a halogen atom chosen from bromine, chlorine, fluorine, and iodine; and an amino radical,

 $R_{14}$  is a hydrogen atom, a  $C_1\text{-}C_4$  alkyl radical or forms with a carbon atom of the benzene ring a heterocycle which is optionally oxygen-containing and is unsubstituted or substituted with at least one C<sub>1</sub>-C<sub>4</sub> alkyl group,

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 $$R_{15}$$  is a hydrogen or halogen atom chosen from bromine, chlorine, fluorine, and iodine,

 $$R_{16}$$  and  $$R_{17}$$ , which are identical or different, are a hydrogen atom or a  $$C_1\mbox{-}C_4$$  alkyl radical,

 $D_1$  and  $D_2$ , which are identical or different, are a nitrogen atom or a -CH group,

m = 0 or 1,

with the proviso that when  $R_{13}$  is an unsubstituted amino group, then  $D_1$  and  $D_2$  simultaneously are -CH groups and m=0,

X is an anion,

E is a group chosen from the following structures E1 to E8:

E1

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in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical;

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when m=0 and  $D_1$  is a nitrogen atom, then E may also be a group having

the following structure E9:

E9

in which R' is a C<sub>1</sub>-C<sub>4</sub> alkyl radical, and

d) cationic direct dyes of formula (IV):

$$G \longrightarrow N \longrightarrow J$$
 (IV)

in which:

the symbol  ${\bf G}$  is a group chosen from the following structures  ${\bf G_1}$  to  ${\bf G_3}$ :

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G.

G<sub>2</sub>

in which structures  $G_1$  to  $G_3$ ,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$  alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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R<sub>19</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl radical or a phenyl radical;

 $R_{20}$  and  $R_{21}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical and a phenyl radical, or form together in  $G_1$  a benzene ring which is substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals, or form together in  $G_2$  a benzene ring which is optionally substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy and  $NO_2$  radicals;

R<sub>20</sub> may also be a hydrogen atom;

Z is an oxygen or sulphur atom or an -NR<sub>19</sub> group;

M is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X<sup>-</sup>),

K is a group chosen from -CH; -CR wherein R is C<sub>1</sub>-C<sub>4</sub> alkyl; and -NR<sub>22</sub>(X'),

P is a group chosen from -CH; -CR wherein R denotes  $C_1$ - $C_4$  alkyl; and -NR<sub>22</sub>(X<sup>\*</sup>), where r is zero or 1;

 $R_{22}$  is chosen from an O atom, a  $C_1$ - $C_4$  alkoxy radical and a  $C_1$ - $C_4$  alkyl radical;

 $R_{23}$  and  $R_{24}$ , which are identical or different, are chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and an -NO<sub>2</sub> radical;

X is an anion;

wherein J is chosen from:

-(a) a group having the following structure J<sub>1</sub>:

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J,

in which structure J<sub>1</sub>,

 $R_{25}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; a  $C_1$ - $C_4$  alkoxy radical; and a radical chosen from -OH, -NO<sub>2</sub>, -NHR<sub>28</sub>, -NR<sub>29</sub>R<sub>30</sub>, and -NHCO( $C_1$ - $C_4$ alkyl), or forms with R<sub>26</sub> a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen and sulphur;

 $R_{26}$  is chosen from a hydrogen atom; a halogen atom chosen from chlorine, bromine, iodine and fluorine; a  $C_1$ - $C_4$  alkyl radical; and a  $C_1$ - $C_4$  alkoxy radical, or forms with  $R_{27}$  or  $R_{28}$  a 5- or 6-membered ring optionally containing at least one heteroatom chosen from nitrogen, oxygen or sulphur;

 $R_{27}$  is chosen from a hydrogen atom, an -OH radical, an -NHR $_{28}$  radical, and an -NR $_{29}$ R $_{30}$  radical;

 $R_{28}$  is chosen from a hydrogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, a  $C_2$ - $C_4$  polyhydroxyalkyl radical, and a phenyl radical;

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G.

in which structures  $G_1$  to  $G_3$ ,

 $R_{18}$  is chosen from a  $C_1$ - $C_4$  alkyl radical; a phenyl radical which is unsubstituted or substituted with a  $C_1$ - $C_4$ -alkyl radical or with a halogen atom chosen from chlorine, bromine, iodine and fluorine;

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 $R_{29}$  and  $R_{30}$ , which are identical or different, are chosen from a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  monohydroxyalkyl radical, and a  $C_2$ - $C_4$  polyhydroxyalkyl radical; and

-(b) a 5- or 6- membered nitrogen-containing heterocycle group which optionally contains additional heteroatoms, carbonyl-containing groups, or a mixture of additional heteroatoms and carbonyl-containing groups and which is unsubstituted or substituted with at least one radical chosen from  $C_1$ - $C_4$  alkyl, amino and phenyl radicals, and

wherein said second composition comprises, in a medium suitable for dyeing, at least one oxidizing agent; and

wherein either said first composition or said second composition further comprises at least one quaternary ammonium salt chosen from:

(ii)<sub>1</sub> - quaternary ammonium salts of the following formula (V):

$$\begin{bmatrix} R^1 & R^3 \\ R^2 & R^4 \end{bmatrix} + X^- \qquad (V)$$

in which

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the radicals R¹ R², R³, and R⁴, which are identical or different, are chosen from a saturated or unsaturated, linear or branched, aliphatic hydrocarbon radical comprising 1 to 30 carbon atoms; and a radical chosen from alkoxy, alkoxycarbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl and alkylaryl radicals comprising 12 to 30 carbon atoms, wherein at least one radical among R¹, R², R³ and R⁴ is a radical comprising 8 to 30 carbon atoms;

X is an anion chosen from halides, phosphates, acetates, lactates and alkyl sulphates;

(ii)<sub>2</sub> - imidazolium salts of the following formula (VI):

in which

R<sup>5</sup> is chosen from alkenyl radicals and alkyl radicals, said alkenyl radicals and alkyl radicals comprising 13 to 31 carbon atoms and being derived from tallow fatty acids;

(ii)<sub>3</sub> - quaternary diammonium salts of the following formula (VII):

$$\begin{bmatrix} R^{7} & R^{9} \\ R^{6} & N - (-CH_{2}-)_{3} - N - R^{11} \\ R^{8} & R^{10} \end{bmatrix}^{+} X^{-}$$
 (VII)

in which

R<sup>6</sup> is an aliphatic radical comprising 16 to 30 carbon atoms,

 $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are chosen from hydrogen or an alkyl radical comprising 1 to 4 carbon atoms, and  $X^*$  is an anion chosen from halides, acetates, phosphates and sulphates.

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75. A composition for dyeing keratinous fibers, comprising a cationic direct dye of structure (I1):

$$\begin{array}{c|cccc}
 & CH_3 \\
 & N \\
 & N \\
 & CH_3
\end{array}$$

$$\begin{array}{c|cccc}
 & NH - CH_3 & CI \\
 & CH_3
\end{array}$$

$$\begin{array}{c|cccc}
 & CH_3
\end{array}$$

and oleocetyldimethylhydroxyethylammonium chloride.

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76. A composition for dyeing keratinous fibers, comprising:

a cationic direct dye of structure (I14):

and behenyltrimethylammonium chloride.

77. A composition for dyeing keratinous fibers, comprising:

a cationic direct dye of structure (IV)<sub>27</sub>:

$$CH_3$$
 $CH_3$ 
 $CH_3SO_4$ 

and cetyltrimethylammonium chloride .--

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